

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of detecting the presence of HPV in a sample comprising the following steps:

[[a.]] amplifying ~~amplification~~ and labeling part of the E1 HPV gene, ~~in particular its 3' end, wherein amplification is performed using at least two oligonucleotides selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:23, to thereby form a labeled fragment;~~

[[b.]] hybridizing the labeled fragment to a solid support upon which a plurality of ~~containing microarrays with various~~ HPV E1-gene specific capture probes are immobilized ~~in the 3' end of the E1 region;~~

[[c.]] removing uncaptured labeled fragments; and

[[d.]] detecting the captured labeled fragment, wherein detection of the fragment indicates ~~detectable moiety indicating the presence of HPV in the sequence DNA in a~~ sample.
2. (currently amended) The method according to claim 1, wherein the HPV E1-gene specific capture probes are selected from the group consisting of SEQ ID NO:24 to SEQ ID NO:59, and wherein the HPV E1-gene specific capture probes are optionally immobilized on the ~~first nucleic acid probes are printed on the glass support as synthesized oligonucleotides or are optionally built on the support by light-directed oligonucleotide synthesis.~~
3. (currently amended) The method according to claim 1 wherein the step of amplification and labeling further comprises amplifying and labeling an HPV gene other than the HPV E1 gene ~~where a combination of the E1 region is used with another HPV sequence.~~

4. (currently amended) A kit comprising:

[[a.]] a device suitable for carrying out the detection method according to the present invention as claimed in any one of claim 1, claim 2, or claim 3;

[[b.]] at least two oligonucleotides selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:23 ~~a number of primer sets~~;

[[c.]] one or more solid supports containing HPV E1-gene specific capture probes selected from the group consisting of SEQ ID NO:24 to SEQ ID NO:59 ~~capture probes in the 3' side of the E1 HPV region; and~~

an optional reagent for signal enhancement.

5-9. (canceled)

10. (new) The method of claim 1 wherein amplification is performed using at least four oligonucleotides thereby producing a second labeled fragment, and wherein the labeled fragment and the second labeled fragment belong to different ones of risk clusters selected from the group consisting of low-risk HPV type, high-risk HPV type, and remaining HPV type.

11. (new) The method of claim 1 wherein amplification is performed using at least four oligonucleotides thereby producing a second labeled fragment, and wherein the labeled fragment and the second labeled fragment belong to the high-risk HPV type.

12. (new) The method of claim 2 wherein the plurality of HPV E1-gene specific capture probes includes at least three of SEQ ID NO:26, SEQ ID NO:29, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:45, SEQ ID NO:51, SEQ ID NO:54, and SEQ ID NO:55.

13. (new) The method of claim 2 wherein the plurality of HPV E1-gene specific capture probes includes at least three of SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:49.

14. (new) A method of detecting the presence of HPV in a sample comprising the following steps:

amplifying and labeling part of the E1 HPV gene to thereby form a labeled fragment,
wherein the amplification is performed such that the labeled fragment has a sequence capable of hybridizing with at least one of the plurality of HPV E1-gene specific capture probes;

wherein the HPV E1-gene specific capture probes are selected from the group consisting of SEQ ID NO:24 to SEQ ID NO:59;

hybridizing the labeled fragment to a solid support upon which at least two of the plurality of HPV E1-gene specific capture probes are immobilized;

removing uncaptured labeled fragments; and

detecting the captured labeled fragment, wherein detection of the fragment indicates presence of HPV in the sample.
15. (new) The method of claim 14 wherein amplification is performed using at least four oligonucleotides thereby producing a second labeled fragment, and wherein the labeled fragment and the second labeled fragment belong to different ones of risk clusters selected from the group consisting of low-risk HPV type, high-risk HPV type, and remaining HPV type.
16. (new) The method of claim 14 wherein the solid support comprises at least three of SEQ ID NO:26, SEQ ID NO:29, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:45, SEQ ID NO:51, SEQ ID NO:54, and SEQ ID NO:55.
17. (new) The method of claim 14 wherein the solid support comprises at least three of SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:49.